3. Spinal Cord Degenerations in a Case of Old Arm Amputation. LUDWIG ROSENBERG.
4. The Tract "X" in the Lower Cervical Region. PURVES STEWART.
5. Subcortical Origin of Isolated Muscle Spasms. A Contribution to the History of Quadrigeminal Tumors. JOSEF SORGO.

1. *Pupillary Inertia.*—A report of two cases of hereditary syphilis and a case of multiple sclerosis, presenting a very marked slowing of the iris, contraction to light and accommodation. In the case of multiple sclerosis the dilation of the pupil on the affected side took 10-15-20 seconds, in the unaffected eye two to three seconds. In the first case of syphilis the right pupil was rigid; the left exhibited a typical slow reaction. The phenomena were present on both sides in the second case of syphilis.

2. *Multiple Neuritis and Basedow's Disease.*—An excellent report of a case of exophthalmic goiter in a woman of forty-six years, complicated by multiple neuritis which the author thinks was of toxic origin, and due to disturbance of the function of the thyroid gland.

3. *Spinal Cord Degenerations in Old Amputated Arm.*—The spinal cord of a fifty-two year old woman whose left arm had been amputated thirty years previously above the elbow, was carefully studied. The spinal cord in the lower cervical segments was smaller on the left side. The cell changes were marked. From the sixth cervical to the first dorsal segments the antero-external cell group had disappeared. In the eighth cervical and first dorsal the antero-median cell group had disappeared. The posterior horn was also atrophied. This would therefore give a localization for the forearm and hand muscles in the sixth cervical to the first dorsal segments of the cord inclusive.

4. *The Tract "X."*—A controversial discourse on the difference between the tract described by Stewart (tract X) and the tract described by Spiller. Stewart maintains that they are different fiber tracts.

5. *Isolated Muscle Cramp.*—To be continued.

McCARTHY (Philadelphia).

Revue Neurologique.

(1902, Vol. 10, No. 10, May 30.)

1. Multiple Sclerosis with Transitory and Recurring Symptoms. Paralysis of Eye Movements in Right Binocular Vision and Later in Left Binocular Vision. GILBERT BALLET.
2. Two New Cases of Lesions Confined to the (Bourrelet) of the Corpus Callosum. J. PELNAR and VL. SKALICKA.
3. A New Method of Cerebral Measurement. Relative Atrophy of the Parietal Lobe by Comparison With the Frontal Lobe in Insanity. MAURICE DIDE and LOUIS CHENAIS.
4. A Parasite Found in the Blood of Epileptics. BRA.

1. *Multiple Sclerosis with Transitory and Recurring Symptoms.*—At present there is little difficulty, the author says, in the diagnosis of multiple sclerosis; nystagmus, vertigo, derangements of vision, scanning speech, intention tremors in head and arms, and spastic paraplegia are regarded as infallible evidences. Yet formerly the evolution of multiple sclerosis of which the present case is a good example, presented many difficulties which interfered with a successful diagnosis. The patient was a woman of thirty-eight years, married, who, although never robust, had enjoyed good health up to January, 1887, when after some preliminary symptoms of illness, she was attacked by binocular polyopia, which did not affect the vision when she looked to the extreme right or closed one eye. There was some weakness of the left side of the body,

sensibility was diminished and the pharyngeal and corneal reflexes were abolished. These phenomena appeared rapidly, then grew slowly less, disappearing altogether at the end of three weeks. After an interval of five years, in January, 1892, without any apparent exciting cause, she was seized with spasm of the left side of the face, followed by binocular diplopia involving the whole visual field, accompanied by intense vertigo and vomiting. The patient could not walk without assistance and complained of a sensation as if a ball were rolling about in her head. After about five days these phenomena disappeared with the exception of the last, and until January, 1893, she enjoyed fairly good health. At the end of that period on rising one morning she experienced nausea, vertigo and numbness with derangements of vision. Numbness of left side increased and there was difficulty in speaking and walking. Diplopia reappeared, both vertical and lateral, and there were spasmodic contractions of the left side of the face with right peripheral facial paralysis. This condition continued for about two years, but during the year 1895 the phenomena gradually subsided and but for a slight lateropulsion to the right and some difficulty in maintaining equilibrium the patient's health was satisfactory until the fifteenth of May, 1901. On that date vertigo and diplopia reappeared with paralysis associated with the lateral movements of the eyes to the right. These difficulties increased, walking became impossible, although muscular force was retained. The diplopia then gradually disappeared together with the other symptoms, although nystagmus persisted and the patient could not hold herself upright. Most of the reflexes were exaggerated, but there was no trace of facial paralysis. An examination of the eyes revealed nothing especially abnormal. The condition of the patient gradually improved, so that in a few weeks she was able to walk when assisted. Shortly after vertigo reasserted itself, but diplopia did not return. Whenever the patient attempted to walk she was seized with tremor, and although the right hand was quite steady the left was so tremulous as to be practically useless. This mode of evolution by successive attacks with suspension and intermission of symptoms is not new in the history of multiple sclerosis, but it rarely manifests itself in as striking characteristics as those of the case here presented, which is chiefly remarkable as a demonstration of the possibility and frequence of associated paralysis of the eyes in multiple sclerosis.

2. *Two New Cases of Lesions Confined to the* (*Bourrelet*) *of the Corpus Callosum.*—Two cases are here presented as a continuation of the researches of Marie regarding a peculiar lesion of the corpus callosum. In the cases now under consideration the lesion is confined to the (bourrelet) of the corpus callosum. As in the cases before considered, there was a brownish coloration extending in the second instance to the ependyma of the internal wall of the posterior cornua right and left. There are few similar instances reported in literature, and the importance of new researches is evident. In the first case here considered the lesion was confined to the lowest anterior portion of the (bourrelet). The "yellowish-gray" color was darker in the right half of the splenium. Laterally it extended only to the internal wall of the postcornu. Beside diffuse arteriosclerosis in the left hemisphere there was complete destruction of the third posterior of the hippocampus, of the lower lingual gyrus and the upper part of the fusiform gyrus. The occipital point, the calcarine fissure as well as the cuneus, were untouched. Another focus of softening was in the white matter of the left external wall of the posterior cornu. This lesion might be explained as a degeneration secondary to the lesion of the lingual and fusiform gyri, but there are certain cir-

cumstances which render this explanation unsatisfactory. There is a disagreement between the extent of the hemispherical lesion and that of the so-called degeneration of the splenium on the side opposite to the hemispherical lesion and a lack of coloring on the right surface of the fornix. Moreover no such explanation can possibly hold in the second case. Here the brownish color extended entirely over the lower half of the (bourrelet) of the corpus callosum, being darker in the right half of the splenium and reaching as far as the right internal wall of the postcornu to the left surface of the lower part of the fornix. There was diffuse arteriosclerosis in the hemispheres, but with the exception of little gaps in the left lenticular nucleus no localized lesion either of the cortex or the subcortex. The lesion of the splenium resembled that of the preceding case. The hypothesis of secondary degeneration was disposed of by the absence of extended destruction of the cuneus and of the posterior and internal parts of the temporo-occipital lobe. If this last case be compared with the second of those previously presented by M. Marie it is found that there was almost the same extent of the brownish coloring of the surface of the splenium and the same absence of lesions of the temporo-occipital lobe and the cuneus. In the first case here considered a small cystic cavity in the middle of the affected area of the splenium would seem to prove the primary lesion in the splenium.

3. *A New Method of Cerebral Measurement.*—While the ordinary method of weighing the different parts of the brain is useful in comparing the anatomical differences of its various parts, this plan is too arbitrary to be practical when considering the abnormal proportions of the brains of the insane with a view to obtaining measurements of the relations of the various lobes to each other. Moreover, an exact separation of the different parts is well nigh impossible, as one cannot always make arbitrary divisions. But there are certain points in the brain cortex whch are easily determined, and using these as starting points one can estimate roughly the area of the included surfaces, and make comparisons from one head to another. These measurements must be made as soon after death as is possible, in order to obtain the best results, as there is always a tendency of the convolutions to flatten, especially after the removal of the pia mater. For this reason many of the present measurements have been made without lifting the pia mater, and with a little practice the fissure of Rolando may be easily located. When the brain has been preserved in formalin the measurements are much easier, as the surface is then hardened. The details should be consulted in the original.

4. *A Parasite Found in the Blood of Epileptics.*—In a previous paper the announcement was made that the examination of the blood of seventy epileptics had revealed the presence of a parasite at certain periods of the disease. Cultivation of these parasites has now made a more complete account of them possible. The blood was examined just before the beginning of the attack and also during its course. Blood obtained after the paroxysm had passed gave varying results. In some cases no microorganisms could be detected, only the hyperleucocytosis observed by Kroumbmiller and a very active phagocytosis. The parasite is apparently present only at certain times. In blood obtained just before the paroxysmal attack small points, single or as diplococci were perceived moving about or united in masses vermicular in appearance. Examination of their structure showed that they are composed of grains of irregular shapes, and can readily assume an infinite variety of combinations. The number of those parasites found varies greatly in different individuals, but examination of a large number of healthy subjects failed to reveal

any similar micro-organism present in the blood. Cultures were made and from these intravenous injections upon rabbits. When administered in any large quantities the animals were either seized with convulsions terminating in death, or with simple rigidity, contractions, dilation of pupils, etc., and after the crisis emission of urine, relaxation of muscles, lowering of temperature, torpid condition for about an hour, and then a return to normal conditions. The varying severity of the attacks was probably due to the difference in the virulence of the infection. It is to be hoped that further experiment will enable the control of the amount administered. To what place shall these micro-organisms be assigned? The most recent experiments would suggest that they be considered as micrococci presenting themselves in the form of diplococci, and short chainlets capable of extension so as to take on the forms of coccobacilli, diplobacilli and streptobacilli. The frequent junction of the parasites and the hematin, the pallor and alterations of the parasites during the crisis period, the disappearance of a certain quantity of hemoglobin, the modifications in the coloring and consistency of paroxysmal blood which have been observed for a long time, altogether indicate that, like the agent of paludism, the parasite under consideration, lives at the expense of the normal elements of the blood.

Taking into consideration the fact that rare or absent during long intervals between seizures, the parasite shows itself in increasing quantities before the attack, lessening or even disappearing after the convulsive crisis, the epileptic attack may be regarded as a series of infections in which the convulsive crisis is parallel to the fever crisis of malaria. This also explains the intermittent periods. The securing of cultures and the results of inoculation leave little doubt, writes the author, that the micro-organisms here described are the pathological agents of epilepsy and that the symptom-complex which characterizes the disease is a result of the irritative action which they exercise over the different nerve centers through the medium of the circulation.

Revue Neurologique.

(1902, Vol. 10, No. 12, June 30.)

1. Progressive Muscular Atrophy (Aran-Duchenne type) with Intermittent and Temporary Contraction. HENRI MEUNIER.
2. The Sensibility of the Skeleton. MAX EGGER.
3. A Case of Pellagra Accompanied by Retraction of the Palmar Aponeurosis. PARHON and M. GOLDSTEIN.

1. *Progressive Muscular Atrophy.*—This author relates the history of a patient aged forty-three years, a hotel porter. His antecedents gave no reason to suspect syphilitic affection or the result of alcoholic over-indulgence. The first indication of the presence of the disease was a gradually increasing weakness of the right hand, which soon made writing impossible. The paralysis gradually progressed up the arm to the shoulder, but was not accompanied by any pain, except occasionally involuntary spasms with sensation of heat and smarting. From these symptoms the diagnosis of syringomyelia was made and electrical treatment applied. The paralysis extended to the left hand and then to the right leg. The examination made at this point revealed no loss of the different sensibilities. The right arm was limp and emaciated, the fingers almost powerless, all movement difficult or impossible. The left hand only was affected and that in a less degree than the right. The legs were weak, often contracting during the night, and straightened with difficulty on arising, so that for the first hours of the day the patient was